NEW YORK STATE MECHANIC.

Under the Direction of the New York State Mechanic Association.

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ARTS AND SCIENCES.

MECHANICS.

The practical mechanic of our country is seldom so well versed in this science as the nature of his calling would seem to demand. To the unlettered operative, the books in general use present so formidable an appearance, clothed as the subject is in a language which is half Greek to him, that he shrinks from the encounter. Several popular treatises, however, have within a few years made their appearance, so well illustrated by engravings, as to familiarize the less comprehensive render with its abstruse points. Among these is the excellent work of Prof. Renwick of Columbia College, which forms one of the volumes of the *Family Library*. The *Principia* of Newton, the *Mechanique Analytique* of La Grange, and the *Mechanique Celeste* of La Place, occupy the highest place among works of abstract science, and are accessible to few.

In the brief space of time alloted for the preparation of this paper, it will barely be possible to give a rough outline for the general reader, leaving the details for future articles. And in doing this, we have nothing new to give; the ablest heads have labored long and arduously in the pursuit of this science, and in presenting the results of their industry, it is attempted to be brief and intelligible.

MECHANICS (from *mechane*, a machine or contrivance) is the science which treats of force and of motion, or in which are investigated the actions of bodies on one another, either directly or by means of machinery. When force is applied to maintain bodies at rest, it is called *statics;* but when acting to produce motion, its laws and phenomena constitute what is called *dynamics*. *Hydrostatics* treat of fluids at rest; *hydraulics* of fluids in motion. The *mechanical powers* are simple machines, upon the principles of which all other machines, however complex, are based. They are essentially three in number, but usually considered seven: 1. the *lever*, and *wheel* and *axis;* 2. the *inclined plane*, *screw*, and *wedge;* 3. the *rope*, and *pully*. They are admirably grouped in the wood engraving which stands at the head of our fifth page, in which they are employed in raising the statue of Fame to the top of the temple. When the artist has finished his work, he must call upon the mechanic to carry it to its lofty position.

The invention of simple machines for moving masses of any material which it might be beyond the unaided power of man to transport to a distance, must have taken place in the earliest age of the world. Human ingenuity would readily suggest the application of a rod or bar of wood or iron for the purpose of lifting a heavy body from the ground; and very little experience would suffice to show that rolling or pushing a block of stone up sloping ground was a much easier operation than that of raising it vertically by the strength of the human arm. Thus may have arisen the employment of the lever and inclined plane; and from these, subsequently, the other powers may have been attained. We have no history of the steps by which the art of constructing machines advanced. We are amazed and delighted in our youth by the exaggerated account of the machines of Archimedes; and the pyramids attest the existence of some powerful contrivances with which men were acquainted in remote ages, for rearing stupendous works; but the earliest writer by whom we have an account of the mechanical forces used, dates about the commencement of our era. Vitruvius, in a work on architecture, describes the lever, the windlass and the assemblage of pullies. He mentions some ingenious contrivances for transporting heavy blocks of stone from the quarries, and a forcing pump for supplying the public fountains; also wheels driving each other by cogs or teeth, and engines for throwing darts or masses of stone. The muscular power of men was then employed in turning mills; wheels impelled by river currents acting on float boards gave motion to machinery for grinding corn; and wheels turned by men walking on them, were used for raising water by buckets or otherwise. There is no intimation of the existence of windmills tell the twelfth century. The application of steam belongs almost to our own age.

In tracing the progress of discovery concerning the mathematical theory of mechanical action, there is little to notice previous to the sixteenth century. The ancients devoted themselves with so much ardor to the researches of pure science as almost entirely to neglect its application to subjects which appeared to them to terminate in mere practical utility. Aristotle, it is true, stated obscurely some mechanical properties, and Archimedes made great advances as a theoratical mechanician, by which he has obtained an eternal celebrity. During the 1800 years which elapsed between his time and that of Cardan, we have no further notices concerning the theory of mechanics, which amount to any thing more than that the ancients had reduced the theory of every machine to that of the lever, and an unsuccessful attempt to explain the cause of the equilibrium of a body on an inclined plane. Cardan was also unsuccessful in his attempt to solve the latter problem; and it was left to Stevinus, a native of Flanders, to discover the true theory. But it is to Galileo, after all, that we are indebted for the first reduction of mechanical propositions to purely mathematical formula. In order to demonstrate the equilibrium of a body on an inclined plane, he imagined the weight and the sustained power to be applied to the ends of a bent lever whose arms were of equal length and perpendicular to the vertical and slant sides of the plane; then reduced the lever to a straight one, between the lines of direction of the weight and power, it was easy to prove that the forces in equilibrio on the plane were also in equilibrio on the lever, and were to one another as the length to the heighth of the plane.

But the most important discoveries of Galileo were those which relate to the times of descent, the spaces descended, and the velocities acquired when bodies fall by the action of gravity. He made observations on the motions of pendulums, and determined that the times of their vibrations are proportioned to the square roots of their lengths; gave theorems for the composition of two motions, when both are uniform, when both are accelerated; and was the first to obtain expressions for the strength of materials in resisting the strains to which they are subject.

The theory of the motions of fluids was, apparently, first cultivated in Italy by Castelli about 1638, and at the same time Torricelli refuted the ancient notion that nature abhorred a vacuum, and invented the barometer upon the new principle which he established. Both these men were pupils of Galileo; and, soon after the time of this philosopher, the French mathematicians Descartes, Pascal, Fermat, and Roberval prosecuted with ardor the new science, as that of mechanics was called. Among the fruits of their researches may be named the determination of the centres of oscillation and percussion in a body or system of bodies vibrating about a fixed axis. The impulse given by Galileo being thus continued by a succession of men of talent both in Italy and France, caused the science to advance with an accelerated movement, and soon put it in a condition to embrace all the subjects of terrestrial physics.

The laws of the collision of bodies, which Descartes had in vain attempted to fix, were at length, and nearly at the same time, discovered by the English mathematicians Wallis, and Wren, and by Huygens on the continent. The first of these, in his treatise on motion, divides bodies into hard and elastic, and explains the phenomena attending the shock of bodies of both kinds.

The *Principia* of Newton appeared in 1787, seventeen years after Wallis's *De Motu*, and from that time the mechanical sciences, which had hitherto been confined to the action of bodies on each other at the surface of this earth, were made to comprehend the laws of planetary motion. A succession of illustrious men followed, who continued to investigate the subjects connected with the science, till the application of its principles to the researches of physical astronomy were rendered comparatively easy.

To be concluded.

THE STATE MECHANIC AND STATE PRISON SYSTEM.

It seems to be the current opinion among those who are not mechanics, and therefore have not paid strict attention to our proceedings, that the sole object of this paper is the demolition of that beautiful prison system, which, as one gentleman observed, "is the admiration of the whole world." In order to be better understood, we publish the circular of the committee appointed by the first convention that met this year, which sets forth clearly the object of the association, and of the paper.

MECHANICS' CIRCULAR.

To the Mechanics of the State of New-York:

At a recent State Convention of Mechanics, the undersigned were appointed a committee to "inquire into the expediency of forming a state association of mechanics, with auxiliary county associations. The objects of such associations to be, to disseminate useful information upon every subject of interest to the mechanic, by such means as shall accomplish that purpose to its greatest extent. To encourage industry and maintain its proper dignity, to foster genius, encourage art, stimulate enterprise, promote improvements, compensate usefulness, and assist the oppressed. To establish and maintain a paper or journal as an organ of communication and intercourse between the mechanics of the State, devoted to their interests and maintaining their rights.

The committee have given the subject their consideration, and deeply impressed with the necessity of some united action of the mechanics thoughout the state, to relieve themselves from their present inglorious position in society, which as a body it is but honest to confess, is not such as either their members or their usefulness entitles them to assume; and do most cordially and earnestly recommend the formation of such association.

That such results would follow the well-directed efforts of an association, such as here contemplated, as would greatly add, both to the respectability and usefulness of the one hundred and seventy-five thousand persons returned by the last census of this state, as employed at mechanical occupations, cannot admit of a doubt, if we examine the influences similar associations exert in other places, and upon other professions and classes of community. Opening as it would so large a field for usefulness, by bringing together, at one common centre, the united support of the varied and different interest of our Empire State, benefits are likely to be dispensed, beyond the estimate or comprehension of the committee. There is not in the State a paper of any character devoted to the interest of the mechanic, if we may except one or two magazines of very limited circulation in the city of New York, and those not of the character that would commend themselves to the mass of mechanics; for although they may be very scientific and valuable of their kind, yet they contain not that summary of interesting matter of which the mechanic wishes to be

informed; besides, they come at so high a price that those who would cannot take them.

We believe that by the concentration at one point of the interests of the mechanics of this immense state, through a general association, such concert of action may be had as will insure to the mechanics and manufacturers that respect they deserve, and the protection their interests require, and that nothing but unity of action will produce such results. The other classes and professions of community have taken the same means to protect their interests, and with the greatest success.

It was formerly held thoughout all the world that all "servile labor," or work for pay, was undignified and degrading; and it is yet so held by all barbarous and aristocratic governments; hence we find even to this day that the name and term *mechanic*, is defined by the great English lexicographers, as "mean," "of servile occupation," &c. That such odium should attach to any body of producers is not compatible with the spirit of our free institutions; and it becomes us as American citizens to go unitedly to the task of wiping out such obloquy from ourselves and fellow producers, and finish the great work of liberty and equality so gloriously begun by our fathers, by establishing firmly in the estimation and opinions of community, the great American doctrine, that there are no privileged classes, that all are equal in respectability of calling, where usefulness of occupation is found combined with integrity and morality.

We would therefore recommend to the mechanics and manufacturers of the several counties of this state, to send delegates equal in number to their representation in the house of Assembly in this state, to meet in the city of Albany, on the first Wednesday in October next, to form such state association, and to take such measures as they may deem proper to advance the mechanic interest.

BENJAMIN C. TRUE, Albany Co.
I. T. MARSHALL, Cayuga "
E. B. KILLEY, Dutchess "
HENRY A. WHITE, Erie "
WM. McDONALD, Kings "
C. A. FOSTER, Madison "
SAMUEL BAYLIS, Monroe "
JAMES P. SIMPSON, New-York "
PERLY P. CLEVELAND, Onond "
DAVID HARMAN, Jr., Oswego "
V. M. DRAKE, Orange "
NATAAN G. BROWN, Putnam "
JAMES HEGEMAN, Rensselaer "
DARIUS SKIDMORE, Seneca "
WM. MASTEN, Ulster "
L. M. STRAW, Wayne "
HENRY W. FOX, Herkimer "

Albany, Sept. 2, 1841. *Committee.*

Pursuant to the above call, a convention was held in the city of Albany, on the 16th October, which organized a State Association, and made the proper arrangements for the establishment of a paper under the title of the *New York State Mechanic*, upon the plan and for the objects set forth in the circular, and in the prospectus on our first page.

It will be seen that it is our wish to unite the mechanics of the State in fraternal associations, for mutual improvement, mental and moral. The scheme is a laudable one, against which no valid objection can be raised; one which cannot even excite the jealousy of any who understand it; and from which incalculable benefits must result, even if it shall fail of being so fully carried out as its friends may desire. Who can estimate the beneficial influence which our Young Men's Associations, and other institutions of a similar nature, are exercising upon the minds of a large portion of the city population. And yet there is a broad field still unreached by any such fostering influence—innumerable towns and villages to be called into action. Where these cannot be stimulated to some movement for their mutual interests, they can at least receive a paper, through which they may learn what their brethren are doing in every country, and mark the progress of the arts and sciences in all parts of the world.

At the same time, the state prison system will be a prominent subject of animadversion. Its fallacies and abuses are too many to escape exposure. It is our purpose to give a history of the whole affair from its foundation, in the course of which it will be necessary to detail a series of enormities committed by avaricious and unprincipled men, both upon the convicts and the public, of which some self-sufficient political economists are wholly unconscious, and which may not a little astound the admirers of the system. Our object is truth, and the subject will be open for controversy. Any of those gentlemen who are so well contented with the present order of things, and who vehemently denounce the movements which are made to bring about a reformation, are respectfully invited to give us their views on the subject. We shall be happy indeed to find that things are not so bad as we believe them to be.

SUBSTITUTE FOR MECHANICAL LABOR IN STATE PRISONS.

Much has been said about a substitute for the present system of convict labor in the prisons of this state; and when the mechanic has complained or protested against the present system, or even spoken upon the subject, the silencing interrogative of "what will you do with them?" is triumphantly put; and if the complainant is not ready with a satisfactory answer, one that cannot be objected to upon any point, his complaint is considered as groundless, or entitled to little consideration; because, say the present system advocates, "if you do not like the system you are bound to provide another." Now, against such conclu ions the mechanics do and ought to protest. When their rights, interests or feelings are interfered with, by wrong legislation, they have the right to complain; but it is the duty of *all* to apply the remedy. Lest, however, they shall again be told that there is no other employment to which the felons of the state can be put than such as will interfere with mechanics, let the following, among others, be replied to such assertions:

They may be employed upon the public works; let them dig the tunnels, and excavate the rocks, upon our public improvements. The Lockport, Little Falls, and aqueduct sections upon the canals, would afford "*hard work*" for numbers that might be employed there.

They might be so arranged and economised as to break stone for McAdamizing our roads, and thus serve and benefit the whole people, to the injury of no one; for if it be objected that it would interfere with the laborer, the answer is, that we now, and probably for a long time to come will, import such laborers; besides, they might be well employed where no labor is now had in that way.

But an equally feasible (for these plans are all feasible) and more profitable employment of those condemned to work—aye, *to work—to be punished for crimes by being sentenced to work for the state*—would be, in developing the resources and hidden wealth, of the state. Let them work her mines and quarries, and bring forth materials and employment to the artificer, and to the people wealth and refinement, by digging out the secret treasures of the earth. Let them be placed in some of the mines of that wilderness in the northern counties; let them dig the ore, and make the iron rails for building the railroads of this state—not a pound of which rails is manufactured among us, although we are using several hundred miles of them, and laying down several hundred miles more, often immediately in the vicinity of, if not directly over, our ore beds, and paying every farthing of their cost, except transportation perhaps, to old England: yes, even the inducement of *duty free*, has been held out to railroad corporations to import their iron!

By planting a prison in the wilderness of the north, the country about it would soon become entitled, by those disposed to supply the wants of the prison; the lands of the state would become valuable, *of which there are some three hundred and thirty thousand acres belonging to the literature and school funds* now utterly unproductive and worthless for all the purposes to which they are assigned, for want of improvement. These lands, or a considerable share of them, are reported by the geologists, engineers and surveyors who have examined them, as among the best in our state for grazing and dairy purposes, and large portions as excellent for tillage in all the varieties of grains and vegetables, &c. The timber now encumbering the soil would furnish the coal for working the iron; the iron would build the needed rail roads through that section, and the increased value of the lands would be vast towards paying the expense. Thus new employments, new resources, and new dominions would be added to the *empire* state.

Iron being the key to the arts, as much as the alphabet is to learning, there can be no exhausting the market; and notwithstanding the iron wealth of the country, we having as much or more than all the rest of the world, yet the strange fact exists, that American iron has scarcely a character in market. Any blacksmith can tell you the qualities and characteristics of English, Swedes or Sable iron; yet you will not find one in a dozen that can give you the qualities of as many different forges of American iron. Besides, our good cast steel is all imported. Should this be so? And if not, why should not the state do something to produce a different condition of things? Let the convicts dig the ore, and if it shall be deemed inexpedient to work it, then sell the ore and encourage a market for it. It is the opinion of practical men that profitable employment might be given to much larger numbers than we now have in our prisons, in advancing the power and wealth of the state, looking beyond the mere return of "lawful interest" upon the outlay, in the first six months; that it is a miserable policy to adhere to a system so dissatisfactory to a large portion of community, when so many ways are at hand for employing the convicts to better purpose.

There are also other valuable mines and quarries which ought to be opened and worked, in the broad waste of the north. The attention of the state should be turned to this subject, as any project that will bring those lands into market, will extend its greatness in wealth, power and intelligence, by increasing the school, literature and general funds, and by increasing our means of defence, while rendering us more independent of foreign manufactures by extending our own.

Then there is the project of building a ship canal around the falls of Niagara—a work that would employ them all for years very profitably. That that is a work which ought to be done, all will admit, connecting as it would the upper and lower lakes, through American ground, opening an uninterrupted steam navigation through them all for American operations, and affording the same facilities as the British enjoy through the Welland canal, besides adding an important link in the chain of defences of our northwestern frontier. But this, like other projects, has its objections; it does not look to permanency, which is a great objection to an alteration of that kind with many. Yet any of them are preferable to the present system, as interfering less with any class of men in honest pursuits.

There is also the object for which the Sing Sing farm was bought, and the prison erected, yet untried—which was avowedly to quarry the marble and sell it in the rough, so as to give labor to mechanics, rather than to interfere with and destroy their business, by throwing the products of the quarry into the market at a cheap price, so as to induce builders to a more beautiful style of architecture, improving the taste and cultivating the arts—an object well worthy the attention of the legislator and economist.

But a better substitute than either of those named, or others that might be named, is the ridding of the country of those that are unworthy to be at large in society, by sending them out of it altogether. Colonization is the best and most effectual remedy, whenever it can be done—ridding community of the rogues, and the different occupations of complaint. T.

INVENTIONS AND IMPROVEMENTS.

ATMOSPHERIC VACUUM ENGINE.

They are exhibiting in Louisville, an engine propelled by heated air, which is thus described in the Louisville Journal: "The machine consists of two perpendicular hollow cylinders or chimneys,

standing over a furnace. These chimneys are connected by a pipe with the piston cylinder. The air in the chimneys alternately is rarified, which causes the air from the piston cylinder to rush out or expand. Thus a partial vacuum is formed in the cylinder, and the surrounding cold air rushes in through a small hole at the end of the cylinder, and sets the piston in motion."

There has been for many years, in Cincinnati, an atmospheric engine propelled by the power of condensed air, constructed by an ingenious and intelligent citizen of that city. The machinery is simple, and must be a little more so than the one at Louisville, because heat is not used.

MAMMOTH IRON STEAMER.

The great iron steamer now being built at Bristol, in England, will no doubt when completed be regarded as one of the most extraordinary mechanical wonders in the world. She will carry five masts, and her tonnage will reach the enormous extent of 3600. Her length on deck is 244 feet. She will have four engines of 300 horse power each, and is expected to be completed by the 1st of May next. She is designed, in the first place, for the Archimedes screw; but should that fail, she is so constructed that paddles may be readily resorted to. Her hull is divided into compartments, so that if one should become injured, the accident would not affect the safety of the vessel. Her workmanship throughout is described as of the very highest style of art. She will be filled with water before launched, and thus her tightness tested. The iron (all wrought) is more than half an inch thick. She will cost something like $500,000 and, as is supposed, will be commanded by captain Hosken.

CAST IRON CHURCH.

St. George's church, Liverpool, is an object of considerable interest for its taste, and as having been nearly the first iron church erected in Great Britain. The whole of the frame work of the windows, doors, groins, pulpit, ornamental enrichments, are of cast iron. The length is one hundred and nineteen feet, the breadth is forty-seven. It is ornamented by a cast iron window of stained glass. It is not, perhaps, generally known, that a great proportion of the larger manufactories erected in England within the last ten years, are all iron except the walls. And within two years past, several cottages and country villas have been put up near London, which are exclusively cast iron—walls, doors, steps, roof, chimneys, sash, &c. When once finished, such buildings require no repairs; and the most finely carved ornaments cost little more than plain castings.

STEAM TUG BOAT.

A model of Leavenworth's Steam Tug Boat was exhibited at the late fair of the institute in New York. When a suitable boat is built, with an engine of twenty horse power, it is supposed she will tow a train of from seven to ten boats, of fifty tons each, from three and a half to four miles an hour, the present speed by horse power being only two and a half miles an hour, and a saving of fifty per cent in expenses effected. It is proper to remark that after two years experience no practical objection to this plan has been discovered.

THE ROCK HARMONICON.

A new and curious instrument has excited a great deal of interest in the musical world. It is called the rock harmonicon, a sort of *stone piano forte*. It is composed of bars of a brown slaty stone taken from the rocks of the Skiddaw mountain in Cumberland. The stone is remarkable for its sounding qualities, and rings with a tone clear as bell metal. The tone of the smaller bars or upper notes, much resemble in clearness and brilliancy the high notes of the piano forte. The slips of stone are laid transversely upon a frame-work of wood, and played upon with wooden mallets. There is nothing between the stone and the wooden frame but a small band of straw and a piece of leather, upon which each stone rests in two separate places. The instrument is the invention of Mr. Joseph Richardson of Keswick, a person of an untaught musical genius, whose occupation on the Skiddaw mountain led him to observe that each piece of rock which he took up gave out a different and distinct musical note, according to its size, and he conceived the idea of constructing an instrument composed of pieces of the rock. The result was the production of the rock harmonicon, which, after a good deal of patient perseverance, he brought to a perfection which is truly surprising. He next instructed his three sons to play upon it; and, after twelve months practice, they have gone to London, the mart of all that is new or curious. They play all kinds of musical compositions with the greatest facility and skill, and the music is of the most novel, yet charming kind.

SAFE POCKET.

A Philadelphian has invented a *safe pocket*, which bids defiance to the assaults of the light fingered gentry, while the garment remains in the possession of the owner. A pliable small brass chain is thrown around the pocket in large reticulations, and the mouth is fastened in such a way that it would be difficult for any one to open it without the aid of the wearer.

WALKING ON WATER.

The Prussian government had its attention drawn to a new and ingenious contrivance for walking on the water—an elaborate account of which is given in the Prussian State Gazette. It is the invention of a pioneer in the garrison at Magdeburg, who several times descended the river with his knapsack and musket with as much apparent ease as he would travel over a dry road.

TELEPHONE.

The *telephone*, or night telegraph, has been found by the French fleet entirely efficient. Orders from the flag ship were transmitted by it a considerable distance, in boisterous and very dark nights.

RECENT DISCOVERIES.

PRESERVATION OF ANIMALS.

The injection of a solution of chlorure of aluminum into the aorta or main arterial trunk of an animal will preserve it fresh for an indefinite period, without imparting to it the slightest taste. The chloric acid of the salt renders the gelatine or decomposable part of animal matter incapable of decomposition, perhaps by destroying some alkali for which the acid has a greater affinity than for aluminum. The latter substance, thus deprived of its acid, becomes an insipid power. The particulars of this discovery, by M. Gannel, will be found in the Bulletin of the French Academy of Science for the sitting of March 22, and in the *Literary Gazette* report of that meeting. From two to five pounds of the salt, dissolved in about twice or three times its weight of water, is sufficient for an ox. Persons disposed to make experiments on the subject need scarcely be reminded that the smaller animals, such as rabbits or cats, should be employed. Subjects for anatomical dissection should also be prepared in this manner. Here is a new field opened for commerce of a most important description. Thousands of oxen on the coast of Spanish America are slain for their skins only, the flesh being cast upon the dung-hill; it may now be prepared and shipped for the West India markets as fresh meat. No ship in future need be provided with salt meat. The health of seamen on long voyages will be preserved, and the comfort of passengers in emigrant ships to Sydney will be materially improved by the application of this important discovery. The table of the Academie des Sciences, on the reading of M. Gannel's memoir, was covered with legs of mutton, fowls, *et id genus omne*, which had been preserved for many months by the new process. The chlorure of aluminum would be very cheap when made on a large scale for commercial purposes.

CANNEL COAL.

A bed of cannel coal has just been discovered on the Red-Bank creek, near the Allegany river, said to be the largest of this kind of coal that is known in the country. It is described as lying in a solid body, and opening on the breast of the hill, 15 feet in depth.

VOLCANO OF EREBUS.

A magnificent volcano, 12,400 feet above the level of the sea, vomiting flame and smoke, was discovered in the South seas on the 27th of January last, by the British ship Erebus; it received the name of Mount Erebus, and is in lat. 77° 34' s., and long. 167° E.

DISCOVERIES IN AFRICA.

Dr. Charles Mathews, who left the United States about fifteen years since, with a view to make discoveries in the interior of Africa, writes to a friend in Vermont, from Abyssinia, that he shall return in the summer of 1842, and that he has been generally successful in his researches. He had traveled from Morocco, across the great desert, to Timbuctoo, and from that capital nearly to the Cape of Good Hope, back to Timbuctoo and Abyssinia, besides making several less important journeys, which had added much to his knowledge of the geography of the country and the social condition of its people.

FOSSIL REMAINS.

A large number of big bones, fossil remains, have recently been found by judge Creagle, in Clerke co., Alabama. Forty-four vertebræ have been dug out of the earth, most of which are from 12 to 16 inches in length, and from 6 to 12 inches in diameter. No head has been discovered, but one corresponding in proportion to the other dimensions of the animal should be fifteen feet long. The bones are supposed to belong to the extinct species of saurian, or lizard.

ROCK SALT.

A body of rock salt, like that found in Europe, has been discovered near Abington, Virginia, at the depth of two hundred and sixty feet. This is the first that has ever been found in the United States.

David Bradford, Esq., of St. Francisville, has proposed a scheme for draining the whole delta of the Mississippi, by which the city of New Orleans will be kept high and dry above the reach of the annual freshets of the river. To effect this he proposes to construct two parallel levees on the west bank of the river, extending from Baton Rouge to the gulf, in a direct line, and throw an immense dam across the stream, to turn the current between these levees. He thinks, when this is done, the river will wear down its bed and soon settle to a level with the gulf. The benefits to result from this measure would be, to make the city of New Orleans equally healthy with the most favored maritime seaport in North America; to secure it from hostile invasion, and render it accessible to the largest vessels; and to drain and render arable the whole delta of the Mississippi, reclaiming about 10,000 square miles of land now flooded and valueless, which, at fifty dollars per acre, will, after deducting one-fifth for the small portion that is now partially fit for cultivation and for the space to be occupied by the proposed works, amount to $356,000,000. The expense of this stupendous scheme appears to be the main obstacle to its completion. The cost of the dam alone is estimated at $5,000,000

The manufacture of covered buttons, one would suppose to be a very simple process. Yet they pass through thirty hands in their progress to completion. The button factory of Mr. Williston in the valley of the Connecticut employs 125 persons. The proprietor commenced with a very limited capital, but by well directed industry, has acquired a fortune.

An elegant marble sarcophagus, prepared by direction of citizens of Washington, was received in Baltimore a few days ago, and forwarded to Pittsburg. Its destination is North Bend, where it will constitute the depository of the remains of the late lamented president, Harrison.

EMINENT MECHANICS AND ARTISTS.

OLIVER EVANS.

It is but seldom that the pen of the biographer has occasion to trace the memoir of an individual possessing equal perseverance, or greater originality of mechanical conception, than the subject of this memoir, who has been aptly styled *"the Watt of America."*

Oliver Evans was born in Newport, Delaware, sometime in the year 1755 or 1756. Little is preserved respecting his early history. His parents were agriculturists of respectable standing, who gave their son the advantages common to people in their station. At the age of fourteen Evans was apprenticed to a wheelwright or wagon maker. An anecdote is preserved which displays in his character, even at this period, that ardent desire for knowledge, and that determination ever evinced not to let any obstacle interfere with the object of his pursuits. His master, an illiterate man, observing his apprentice employing his leisure evenings in study, through motives of parsimony, forbade him using candles; but young Evans was not to be discouraged, for, collecting at the close of each day the shavings made from his work, he would take them to the chimney corner, and. by their uncertain light, pursue his evening studies.

While yet an apprentice his attention was turned to the subject of propelling land carriages without animal power; but all the methods with which he was acquainted appearing too futile to deserve an experiment, he concluded such motion to be impossible for the want of a suitable original power. But one of his brothers informed him on a Christmas evening that he had that day been in company with a neighboring blacksmith's boy, who, for amusement, had stopped up the touch-hole of a gun barrel, then pouring in a gill of water, rammed down a tight wad; after which on putting the breech in the fire, it discharged itself with a report of gunpowder. The active mind of Evans, ever awake to the phenomena around him, instantly saw that *here* was the long desired power, if he could only apply it, and from this period endeavored to discover the means. He labored for some time without success; at length a book fell into his hands describing the old atmosphere steam engine; and he was greatly astonished to observe they had so far erred as to use the steam only in forming a vacuum to apply the mere pressure of the atmosphere, instead of using the elastic force of the steam for the original motion, the power of which he supposed irresistible. He thereupon renewed his studies with increased ardor, and soon declared that *he* could make steam carriages, and endeavored to communicate his ideas to others, but was only listened to with ridicule. Persevering, his experimeats confirmed his opinions; but want of means for a time compelled him to abandon its prosecution.

When twenty-three or twenty-four years of age he was engaged in making card teeth by hand, at that period the only method known. Finding this a tedious operation, he invented a machine that would manufacture three thousand a minute, but was defrauded of a great share of the benefits derived from it. Shortly after he *projected* a plan for pricking the leather in cards, and at the same time cutting, bending, and setting the teeth; but owing to the unfortunate result of the previous invention, never carried it into execution.

At the age of twenty-five Mr. Evans entered into business with his brothers, who were millers, and wished to avail themselves of his talents and ingenuity. Here it was, ere long, that he commenced those series of improvements in the construction of machinery and appurtenances of mills which effected a complete revolution in the manufacture of flour. These improvements consist of the invention and various application of the following machines, viz:—The elevator, the conveyor, the hopperboy, the drill, and the descender, which five machines are variously applied in different mills according to their construction, so as to perform every necessary movement of the grain and meal from one part of the mill to the other, or from one machine to another, through all the various operations, from the time the grain is emptied from the wagoner's bag, or from the measure on board the ship, until it is completely manufactured into flour, separated and ready for packing; all of which is performed by the force of the water, without the aid of manual labor, except to set the different machines in motion. The advantages derived from these improvements are great in almost every respect, not only causing a *saving* of full *one half* in the labor of attendance, but manufacturing the flour better, and making about twenty-eight pounds of superfine flour *more* to each barrel than was made by the old method.

These improvements were completed in theory as early as 1783, but were not carried into operation until a year or two later, and then before they perfectly succeeded, many alterations were to be made, and great difficulties to surmount. Although the result exceeded expectation, yet the opposition which was experienced rendered their introduction into general use extremely laborious. To promote this object, Mr. Evans furnished his brother with the necessary funds, and despatched him through the states of Pennsylvania, Delaware, Maryland, and Virginia, offering the inventions gratis to the first in each county who would adopt them. After considerable expense he returned wholly unsuccessful. The Brandywine millers in particular opposed their adoption with all their influence, until they were in use in several mills around them. At length they resolved to make him proposals as to the terms on which they would try the experiment, which were nearly in the words following viz:—"Oliver, we have had a meeting, and agreed that if thou would furnish all the materials, and thy own boarding, and come thyself to set up the machinery, in one of our mills, thee may come and try, and if it answers a valuable purpose, we will pay thy bill, but if it does not answer, thee must take it all out again, and leave the mill just as thee finds it, at thy own expense." The principles having already been tested, and these millers, knowing Mr. Evans' reduced circumstances at the time, he could but regard their propositions as a disposition to retard and embarrass rather than to encourage or forward the improvement.

The following anecdotes which were related by Mr. Evans, exhibit a strength of prejudice, on the part of these men, almost inconceivable. When he had his inventions in full operation, so that he could alone attend his mill with less fatigue than he could before, even with the assistance of two men and a boy, he invited the Brandywine millers to come and witness its operation. It so happened that some of them called on a day when he had alone, both to attend the mill and make hay in an adjoining clover lot. On seeing their approach, he turned from them, thinking it best to let them enter the mill, and finding it attending to itself, would be convincing and positive proof of the great utility of the improvements. Entering, they found all the operations of cleaning grinding, and bolting going on without the intervention of a human hand, with perfect regularity and despatch. In about half an hour, they came to Mr. Evans, and requested him to explain the whole of the operations, which he did willingly, but took care to inform them that it was an "uncommon busy" day with him, for he had both to attend the mill and make hay. After they left, Mr. Evans returned to the lot, leaving the mill to attend itself, and rejoicing at the lucky circumstance, not doubting but they were *now* fully convinced. But to his astonishment, he soon learned that on their return, they had reported to their neighboring millers, that the whole contrivance was a set of *"rattle traps,"* not worth the attention of a man of common sense; which fixed more firmly the opposition of the rest to the adoption of the improvement. Some time later, he exhibited a model of his improved mill in the streets of Wilmington, Delaware, which was to be sent to England. Some of the crowd called to a Brandywine miller, as he happened to be passing, who was so struck with its simplicity and perfection, together with the observations of those present, that he contracted with the inventor to construct one for him. It was soon put into operation in presence of the neighboring millers; and though the elevators and conveyors, without the aid of human hands, brought the meal from the two pair of stones, and the tail-flour from the bolts to the hopper-boy, which spread it over the flour, stirring, fanning, and gathering it, and attending the bolting hoppers at the same time, yet one of them, in contradiction to the evidence of his own senses, exclaimed, "It will not do!—it cannot do!—it is impossible it should do!"

In the year 1786, Mr. Evans petitioned the legislature of Pennsylvania for the exclusive right to use his improvements in flour mills, and steam carriages, in that state, and in the year following presented a similar petition to the legislature of Maryland. In the former instance he was only successful so far as to obtain the privilege of the mill improvements; his representatives concerning steam carriages were considered as savoring too much of insanity to deserve notice. He was more fortunate in Maryland, for, although the steam project was laughed at, yet one of his friends, a member, very judiciously observed that the grant could injure no one, for he did not think that any man in the world had thought of such a thing before, he therefore wished the encouragement might be afforded, as there was a prospect that it would produce something useful. The kind of argument had its effect, and Evans received all that he asked for, and from that period considered himself bound in honor to the state of Maryland to produce a steam carriage, as soon as his means would allow him.

For several years succeeding the granting of his petition by the legislature of Maryland, Mr. Evans endeavored to obtain some person of pecuniary resources to join with him in his plans; and for this purpose explained his views by drafts, and otherwise, to some of the first mechanics in the country: although they appeared in several instances to understand them, yet declined any assistance from a fear of the expense and difficulty of their execution.

In the year 1800 or 1801, Mr. Evans, never having found any one willing to contribute to the expense, or even to encourage him in his efforts, determined to construct a steam carriage at his own expense. Previous to commencing he explained his views to Robert Patterson, professor of mathematics in the University of Pennsylvania, and to an eminent English engineer. They both declared the principles new to them, and advised the plan, as highly worthy of a fair experiment. These were the only persons who had any confidence, or afforded encouraging advice. He also communicated his plans to Mr. B. F. Latrobe, a highly scientific gentleman, who publicly pronounced them as chimerical, and attempted to demonstrate the absurdity of Er. Evans' principles in his report to the Philosophical Society of Pennsylvania, on steam engines: in which he also endeavored to show the impossibility of making steam boats useful. In this report, Mr. Evans is one of the persons alluded to, as being seized with the *"steam mania,"* but the liberality of the society caused them to reject that portion of the paper, conceived that they had no right to set up their opinions as an obstacle in the way of any exertions to make a discovery, although they did not reject that gentleman's demonstrations respecting steam boats.

To be concluded.

THE MECHANIC.—Kirby the young actor, in the play of the Carpenter of Rouen, gives the following excellent sentiment, which always brings down three rounds of applause:

The mechanic, sir, is one of God's NOBLEMEN. What have mechanics not done?

Have they not opened the secret chambers of the mighty deep, and extracted its treasures, and made the raging billows their highway, on which they ride as on a tame steed? Are not the elements of fire and water chained to the crank, and at the mechanic's bidding compelled to turn it? Have not mechanics opened the bowels of the earth, and made its products contribute to their wants? The forked lightning is their play-thing: and they ride triumphant on the mighty winds. To the wise they are the flood gates of knowledge, and kings and princes are decorated with their handiwork—He who made this universe, was a great Mechanic.

A company has been formed in England for the purpose of making a composition to imitate ice, to skate on at any time of the year!

ALBANY, SATURDAY, NOV. 20, 1841.

INTRODUCTORY.

In making our bow to our friends and the public, we deem it proper to present a more lucid statement of the objects of this paper than the limits of our prospectus would allow.

Our paper appears as the organ of the Mechanic's State Association, and its objects and principles are identical with those set forth by that institution, "to disseminate useful information on every subject of interest to the mechanic, to encourage industry and maintain its dignity, to foster genius, encourage art, stimulate enterprise, promote improvements, compensate usefulness and assist the oppressed." In disseminating useful information, we shall endeavor to combine that which will elevate the man, and the class, and afford mental pleasure and improvement, with that which will give material assistance to the mechanics in their occupation. For instance, the useful sciences; a knowledge of which no class can make more available, and therefore more need, than the mechanic. There is scarcely a principle of either of them, but is capable of rendering some branch of mechanical manufacture very great facilities, as well as of affording an elevation and refinement to his calling. Yet important as this species of information is to the minds and business of mechanics, to most of them it is comparatively denied. Many have no access to books, or means of obtaining it; and those who are more advantageously situated in this respect, have to wade through interminable volumes, and to read much to obtain little of direct applicability to their wants; with their progress impeded and themselves perplexed and discouraged by blind technicalities, quotations of foreign languages, and a dry uninteresting style. Viewing them of immense importance, great attention will be paid to this class of subjects, and we shall endeavor to give the information in a manner best calculated to accomplish the object in its greatest extent; that is, in an attractive elementary style, simplified to the comprehension of any reader, and its interest heightened by the results of familiar experiment, by illustrations, and by clearly pointing out their applicability to the various arts and trades. It is needless for us to say what important, and favorable results must flow from a proper treatment of these subjects.

Another important novel feature of our paper, will be to present through correspondents, accurate statistical reports of the various manufacturing towns and districts of the country, with the history of their various manufactures, the present state thereof, with their future prospects; their products and their value, cost of material, number of men employed, &c., with appropriate notice of the influences whether favorable or not, which operate on them. This information will generally be given in the form of letters, which will be rendered further interesting by notices of the peculiarities of the place or people which are important or interesting. Correspondents are also promised, and more are solicited, who will give their mechanical experience, with accounts of improvements in method, in material, or in style of manufacture. When our readers consider that they can scarcely associat with an intelligent fellow craftsman without gaining important information in regard to their trade, and that these correspondents will be intelligent practical mechanics who will give the rich stores of their actual experience, they can easily comprehend the great practical value of this branch of our paper.

With politics we shall have nothing to do. Editorial we shall know no political distinction, but this will not prevent us from freely discussing measures of policy which have a bearing on mechanic interests. On these subjects however our columns will be equally open to suitably written articles on either side, whether an editorial perference is declared or not. While we shall make it the earnest advocate of law and order, and the advocate and example of good morals, all sectarian questions, or any except those above named will be wholly excluded.

Our biographical department commencing in this number with Oliver Evans, will, it is hoped, be found not only interesting but extremely useful to young mechanics; inviting them to emulate the virtues and efforts by which *they* obtained distinction, and warning them to beware of their faults; teaching them lessons of forbearance, and increased exertion under difficulty, and that perseverance in a great and good cause will ultimately meet its reward.

We have many other novel and important features in contemplation which we have no room to explain in this number; therefore friends, we will only say, that our determination is, to use every exertion to make our paper *distinguished* for its usefulness—an honor to the class for whom it is proposed, and one which will be welcomed with pleasure by its readers, and perused with interest and profit.

MECHANIC ASSOCIATIONS.

MAINE.

A large convention of the mechanics of the state of Maine met at Augusta on the 27th October. There were 120 delegates in attendance. Oliver Gerrish of Portland was elected president; John S. Sayward of Bangor and C. C. Robbins of Gardiner, vice-presidents; Augustus Brick of Augusta and James Oliver of Bath, secretaries. Our limits will not permit us to give so full an account of their proceedings as we are disposed to; for they were animated by a spirit of zeal and intelligence which gives them great interest. The governor was in attendance and invited to a seat in their body. In the evening an address was delivered by Mr. L. Severance of Augusta. The resolutions adopted on the occasion manifest the right temper. Among them are the following:

Resolved, That the establishment and generous support of associations among mechanics for mutual encouragment and aid in the great enterprise of mental, moral, scientific and social improvement, have been productive of immense benefit to mechanics by awakening a spirit of inquiry—giving vigor and directness to thought—enlarging the circle of paternal sympathy, and resulting in great personal attainments and general elevation. And that these benefits may be extended, it is expedient to increase the number of these associations in this state.

Resolved, That knowing, from the little experience we have had, something of the benefits to be derived from the formation of mechanic's associations, we hope, and earnestly recommend to the mechanics throughout the state to form associations forthwith, in every town and village, for the purpose of intellectual improvement, not only for the individual interests of the mechanics as a class, but also for the interest of the community; for intelligence is the grand basis of all genuine intellectual moral reform.

Resolved, That although isolated effort may effect much—yet on associated exertions depends in a great degree the prevalence of many principles, which mechanics are begining to see lie at the foundation of their social, moral and intellectual welfare.

Resolved, That we will use our endeavors in case of misunderstanding between ourselves and our brother mechanics and others, to have it adjusted by reference or arbitration, rather than resort to the usual course of law, and thereby save our funds for a better use.

Resolved, That for ages there has existed a prejudice against mechanical pursuits and manual labor, having its origin in the ancient and arbitrary distribution of rights; in false views of the true elements of individual and national prospirity, and in a mistaken idea of the law of God, which makes so much of good to man depend upon physical exercise and steady occupation. And this prejudice is mainly perpetuated, in this country, by neglect among mechanics of a vigorous effort for mental and scientific attainments.

The mechanics of every state should emulate those of Maine in their noble and patriotic movement. The benefits which may be derived by association, in every point of view, are incalculable.

INVENTORS AND PATENTEES,

Having useful machinery which they may wish to have noticed, will find a reception for their communications in the columns of this paper. It will be proper at the same time to suggest, that they observe as much concciseness as may be compatible with a fair description, and when accompanied by an engraving, it is highly important that it should be well executed, and if possible adapted to the width of a single colum. This cannot always be done, and we shall be willing to yield as much room as may be absolutely necessary for the purpose of a full representation of the machine. It is our purpose to avoid all unnecessary waste of space, by which we intend to make up in matter, what we may be thought to lack in dimensions. Some of our newspaper publications, like too many of our American farms, present a broad expanse, while the crop is small or inferior. By a judicious management of half the ground, there might be a vast saving of labor and an accession of valuable produce.

HOME LEAGUE.

A convention of the friends of American industry met in the city of New York on the 15th of October, and organized an association under the name of the *Home League for the Protection of American Labor and the Promotion of Reciprocal Commerce*. Not withstanding the limited notice given to the call for this convention, delegates were in attendance from 17 states, from Vermont and New Hampshire to Florida. The delegation from

our own state, with the exception of the city of New York, was sufficiently lean; Brooklyn, Syracuse and Lansingburg were the only places represented.

The primary object of the Home League, as expressed in one of the resolutions of the convention, will be to digest and recommend a national policy, for the promotion of the general interest of agriculture, manufactures, commerce, and finance; exercising a continuous influence for the benefit of the Union, independent of sectional prejudices, aloof from party trammels, and free from vacillating and temporizing expedients. A constitution was adopted and officers appointed for the coming year. We understand that their proceedings are to be published in a pamphlet for circulation, when we hope they may engage the attention of the public. The time is near at hand, (we quote the language of the *Providence Journal*,) when great questions, deeply affecting the industry of the country, are to be settled—questions of no less import than whether the immense investments in the various branches of production, and the thousands daily dependent upon them, shall be sustained, or whether our own labor is to be thrown into direct competition with the labor of Europe—a competition which can only be sustained, on our part, by a reduction of wages to the European standard. By the operation of unfavorable treaties, nearly the whole of the importing trade in this country is in the hands of foreigners, and conducted on foreign account; while England has driven us from a large and profitable colonial and carrying trade. This injustice demands redress, and it is time that the principle of reciprocity was more firmly insisted upon in our commercial treaties.

AMERICAN INSTITUE.

Late as it is, we cannot omit to give a passing notice of the great fair of this institution, which closed on the 26th ult. Any society having for its object the patronage of home industry and the encouragement of native talent and skill, in this age, is above all measure to be commended. It is gratifying to say, that the interest manifested by the public in this national exhibition, is good evidence that its usefulness is appreciated. The city of New York was thronged with visiters from remote places who came to witness the display of curious inventions and rare productions assembled on the occasion. It was the fourteenth annual exhibition, and is believed to have sustained its reputation by the variety of useful and curious articles brought together.

The address of Gen. Tallmadge, which preceeded the awarding of premiums, exposes the disadvantages under which our commerce and manufactures labor. Although affording much information upon which we ought to reflect and act, it is destined to be forgotten. It will be a long time before the people of this nation will awake to a proper sense of their duties to themselves and their country, and take such measures for their common welfare, as will place them beyond the reach of foreign influence. It is true that Great Britain no longer gives us laws, but she exercises over our affairs a silent and mysterious control. The interest on the immense sums which have been borrowed in England and squandered here, and the increasing demand for imported luxuries, are draining the country of the precious metals, and placing our commerce and our industry under a weight of oppression from which it can never rise, till the people resolve in a body, upon a new and correct system of public measures and private expenditures. The prospect of any such system being attempted is far distant. The feeble efforts of this institution are but the germ of that great revolution that must emancipate us from our commercial thraldom. By fostering and encouraging domestic manufactures, in this small way, the people may by degrees be led to take effective measures for their independence.

STATE PRISON LABOR.

Since the movements of the mechanics and manufacturers have become resolute and determined, and their complaints are made *en masse*, this subject is engrossing the more serious attention of other portions of community. Those who were not actually robbed of their daily bread, were unable possibly to conceive how men could be so stupid as to complain of the best regulated state prison system in the world. What better could they have? What better could they want? And not being able to answer their own subtle and profound questions, they settled down under the conviction that the dissatisfaction arose from a restless spirit of opposition, or at best a disposition to monopolize, that could not bear a fair competition. It will be a part of our task to set before these men some facts which will give them a proper understanding of the subject, when if they will read and reason upon the matter, they shall be made to comprehend how the punishment of the state felons is made to fall severely upon many mechanical trades; if it does not actually amount to the fact, that mechanics are made to support the burden of the crime of the state.

We shall rest for the present, after introducing one or two instances out of the mass, to show how the system operates upon private interest. One of them it is true is without the pale of our laws, but the case is to the point.

Few of the mechanics of the city of New York, says the *Tribune*, who have been here eight years, can fail to remember the eloquent and clear-sighted Austin Baldwin. In the year 1834, a delegation was sent from Tammany Hall expressly to put an end to the evils of state prison labor, and a bill was passed for that purpose. We soon lost sight of Mr. Baldwin and only met him casually, four or five years afterwards, on a New Haven steam boat. On inquiring what had become of him for so long a period, we learned that he had been compelled to leave the city in 1835, his business (plane making) having been ruined by the state prison competition, in spite of the law passed to remedy the evils to which that competition had given rise. Mr. Baldwin was thus driven out of the city by state prison competition, and has never since returned to it. We have understood by others that the business of plane making has been entirely ruined by the state prisons.

In the *Cincinnati Gazette*, is advertised the sale of the pleasant home of Mr. Luke Kendall, near that city, by the sheriff. We regard the case of Mr. Kendall, says the editor, as a hard one. He is the man who, several years since, commenced the manufacture of saddle trees in Cincinnati, and by his industry and perseverance, brought the article into notice, and had a fine prospect before him. The manufacture was introduced into the penitentiary, and a portion of the convicts hired out for that labor. Mr. Kendall's individual means were inadequate to withstand this competition—he sunk under it, and the penitentiary contractors have since held a monopoly of the market.

BUILDING IN ALBANY.

There is an unusal amount of building this year in Albany. Every street almost presents the gratifying spectacle of one or more houses going up, in some cases large blocks. The brick kilns seem to illumine the darkness of night with an unwonted blaze, which gladdens a larger region than usual along the suburbs. The hills are disappearing through the hopper of the clay mill, and are metamorphosed into stately edifices below. This indicates general prosperity and full employ for several trades The carpenter and mason, especially, have no complaint to make of hard times this season, with plenty of business and the necessaries of of life at a fair price.

MEMOIRS OF EMINENT MECHANICS.

A neat volume under the above title, by Henry Howe, has lately issued from the press of A. V. Blake of New York. One of its articles we have copied on our 4th page. The biography of Oliver Evans, though full of interest, is overlooked in our collections of the lives of eminent men. His history is not unlike that of all men of mechanical genius, who struggle against poverty and misfortune, through an age which cannot comprehend the creations of their gigantic minds, and which therefore compels them to run the gauntlet of public scorn and derision. The work contains similar sketches of several of the most eminent American and English mechanics, and an appendix of interesting matter. We commend it to our readers as one of the few really useful books prepared especially for them.

THE FIRST PAPER MAKER.

If you have ever observed the operations of the wasp, as he lights upon the unpainted panel of your house door, or upon the weatherbeaten clapboard, you have seen the first rudiments of the art of paper making. The wasp is the oldest paper maker; but like the Chinese, the art remains stationary with him, and is handed from generation to generation, in the same state in which he found it. With the wasp, however, there is no motive for improvement, his manufacture being sufficiently perfect for all intents and purposes of his. In all ages, while men were using an extremely scarce and costly article for preserving their records, the wasp was setting them an example for making a firm and durable paper from a vegetable substance. When the art of making paper had been brought to a high degree of perfection, a method was discovered by a Frenchman, named M. Brad, for making paper from rotton wood, upon a process similar to that of the wasp. The latter dignitary, the wasp, manufactures only for the necessities of his own family. You will see him gathering his material by rolling up the soft, woody fibers which the weather has decayed, into a small ball, with which he flies away. The chemical process by which they are afterwards reduced to a

pulp and spread out into a leaf, is probably different from that pursued by M. Brud, but the result is nearly the same in the production of a paper that answers the purposes to which it is intended to be applied.

STATE PRISON CONTRACTS.

One of the editors of the *New York Tribune* has visited in person the prison at Sing Sing, with a view of obtaining accurate information in relation to the present system of prison labor there. The following statistics were gathered on the occasion.

List of Contractors who hold unexpired Contracts for Convicts' Labor in the Mount Pleasant State Prison, with the date of such Contracts respectively.

Joseph Gary—Made October 1, 1833, for 60 convicts, at shoemaking for 7 years, at 35 cents per day, with the privilege of extending it 3 years. This contract was assigned to N. Starbuck & Son, October 20, 1834, and by them extended 3 years from the 1st of October 1840, to expire the 1st of October 1843; they assigned it to R. Wiltsee, May 19, 1840, with a stipulation that he was to have only 50 convicts.

Knower & Wenslow, (known as the Boston Japanned Leather Co.)—Made August 26, 1833, for 50 convicts at shoe and boot-making, at 35 cents per day, for 5 years, with the privilege of extending it 5 years longer. This was afterwards extended by mutual consent. Attached to this is an agreement made August 11, 1834, allowing the agent to increase the number to 100. The number now on the contract is 50.

Hasbuck & Buck—Made October 18, 1833, for 40 convicts at making harness and saddle-ware, at 37½ cents per day, for 5 years, with the privilege of extending 5 years. It was extended April 10, 1838—will expire October 18, 1843.

Hubble & Bingham—Made April 22, 1839, for 30 convicts at lock-making, at 56¼ cents per day, for 5 years. The price was reduced by the inspectors, August 6, 1840, to 51 cents per day. Expires April 22, 1844.

William H White—Made July 31, 1829, for 30 convicts at 40 cents, at hat-making. Expires July 31, 1844.

Samuel Phillips—Made October 7, 1849, for from 40 to 60 convicts 5 years, at 40 cents per day, at weaving sealettes, Brussels and Wilton carpets and rugs, (a manufacture not prosecuted elsewhere in this country.) Expires October 7, 1845.

Jeremiah Chichester—This contract was made December 26, 1832, for the work of 150 or 200 convicts as coopers for 7 years, with the privilege of extending it three years. It was extended 3 years, accordingly.

Since the spring of 1839, but two contracts have been made, and the larger of these for a business which does not come in competition with any manufacture or mechanical business in the state beside.

The following resolution was passed by the board of inspectors of the Mount Pleasant State Prison, August 5, 1841:

"*Resolved*, That the agent of the Mount Pleasant State Prison be authorized to plant one acre of mulberry trees, of such a kind as will be best adapted to the culture of silk, and make such other arrangements for the manufacturing of silk as shall be necessary to make a fair trial of the practicability of employing the convicts as a permanent business."

This resolution has been carried into effect by the agent, and the silk culture will be vigorously pushed next season.

Number of convicts remaining in the Mount Pleasant State Prison, October 27th, 1841: males 747, females 74; total 821.

SYNOPSIS OF NEWS, ETC.

Three hundred and seventy-one steamboats were built at various places on the Ohio river, from 1832 up to 1841 inclusive. Of these 90 were built at Pittsburg, and 89 at Cincinnati.

The receipts at the late mechanic's fair in Boston, amounted to upwards of $15,000.

The monument on Bunker Hill has risen to the height of 125 feet, and may be seen from various points at the distance of many miles. The workmen have ceased operations for this season. It will probably be completed next year.

According to the Nantucket Inquirer there are now 626 American vessels engaged in the whale fishery; and the amount of oil on board up to the 1st instant, was 244,302 barrels.

It is calculated that there are in the United States 14,012 lawyers, 14 680 clergymen, and 10,322 physicians, exclusive of quacks.

On the opening of the Strasburgh rail road, a grand dinner was given at Mulhausen. One inscription on the walls of the dining room ran thus: "In 1500 the journey from Mulhausen to Strasburgh occupied eight days; in 1600, six days; in 1700, four days; in 1800, two days; in 1841, *two hours!*"

Within a year there will be, between Boston and Buffalo, a rail road six hundred miles in length. It will be possible to go the whole distance by daylight. Had such an event been prophesied, it would have destroyed all belief in revelation.

On the authority of a document in the state archives, it appears that the wheel carriages in the state of Massachusetts, in 1753, consisted of 4 coaches, 6 chariots, 1 calash, 283 chaises, and 872 chairs.

It is said that tar is no protection to cordage in a solar winter. Sir John Ross found the rigging of the Fury, wrecked in the polar sea, bleached as white to the core as if a particle of tar had never been applied.

Three hundred men are now employed in rebuilding the Kremlin of Moscow. Its immense roof is to be constructed of iron.

The ladies of Wilkesbarre, Pa., with commendable zeal, are striving to obtain $3,000 to build the Wyoming monument. They have about $2,500 on hand, and the balance they need before starting the noble enterprise.

There are about 2,000 persons employed in the London post office, of whom 824 are letter receivers, and 724 letter carriers. The average number of letters posted daily is 30,370; of newspapers 85,510. The postage on a letter to any part of Great Britain is one penny. There are 3,938 post offices in the United Kingdom.

Greenough's statue of Washington, weighing 14 tons, has been safely placed in the rotunda of the capitol.

The library of Harvard University is the largest in the United States, containing 57,942 volumes.

The importation into England of cotton from India, in 1831, was 75,627 bales; in 1835, 126,153 bales, and in 1840, 216,784 bales. At this rate of increase in the British article, our southern states will soon have to seek a new market for their great staple.

To-day, says a Buffalo paper, may be set down as a new era in the history of products from the upper lakes, the receipts of wheat alone at this port from that region being 33,000 bushels. The receipts yesterday from the same source was 20,300.

The late accounts from the English manufacturing districts, present a gloomy state of things. In several places the wages of cotton spinners have become so reduced that those who have full work cannot earn on an average more than $2.50 to $3.50 per week. Hundreds of people distitute of employment, and of bread for their families, may be seen pacing the streets in tears, and in squalid, helpless poverty.

The national debt of Great Britain is now no less than $3,784,486,000!

The Birmingham and London railroad company have established a free school of 100 boys, and 100 girls, under the auspices of the directors, expressly for the children of the company's workmen.

The whole number of slaves in the U. States, according to the last census, is 2,487,113—males, 1,246,408; females, 1,240,705. Free colored persons in the U. States, 386,235—males, 186,467; females, 199,778.

A pumpkin weighing 152 pounds was exhibited at the late agricultural fair at New Haven, Conn.

England exports annually $125,000,000 worth of cotton goods, of which 5,000,000 come to this country, and 17,000,000 go to Germany.

The grand hall of St. George, at St. Petersburg gave way on the 27th August last, when all the splendid Italian vases and paintings collected there, valued at several millions of francs, were destroyed.

A great robbery has lately been committed in the Berlin Museum. Several valuable gold and silver ornaments from Egypt, which were found in a tomb of one of the Pharaohs, and a number of other antiquities, have been carried off.

In the anatomy school at Oxford, among other curiosities they show the skeleton of a woman who had ten husbands, and was hanged at the age of thirty-six for the murder of four of them.

The water power of Rochester is estimated to be equal to 1,927 steam engines of 20 horse power. The river supplies about 20,000 cubic feet of water per minute, when at its medium level.

Of eight daily morning papers published in New York city in 1829, only one survives, the *Journal of Commerce*.

There was lately exhibited at the Merchants' Exchange in Savannah, a large mass of silver ore weighing near 1,200 ounces, the produce of the Washington mine, in Davidson county, North Carolina.

Total value of foreign and coastwise exports from the ports of Richmond and City Point, Va., for the year ending September 30th—$9,343,089—much the greater portion being tobacco. That article exported in hogsheads alone, and valued at the rate of $125 per hhd., was shipped to the extent of $4,305,312. The flour exported, amounted to $237,287.

During the last seventeen years geological surverys have been commenced in nineteen of the states, and two territories of the Union; embracing an area of nearly 700,000 square miles.

Baron Cotta of Austria, Mr. Reimer of Berlin, and Mr. Brockhams of Leipsic, are the most extensive publishers in the world. The first employs four hundered editors, and the two last, one hundred each.

A joint stock company in England has obtained the permission of the emperor of Russia to make an iron railway from Moscow to St. Petersburg, and will begin its operations perhaps this autumn; but certainly in the spring.

Mr. Stultz, the celebrated London tailor, has contributed the sum of £5,560, together with a large plot of ground, for the erection of a comfortable and permanent building for thirty-three pensioners (with their wives) of the institution "for the relief of aged and decayed journeymen tailors."

An old retired sea captain in Philadelphia has placed in the Exchange for sale some fine specimens of miniature ship building, consisting of full rigged and armed sixty-two gun frigate, a twenty-two gun sloop of war, and eight gun schooner.

MISCELLANY.

EPITAPH.

In looking over an old journal kept in this city many years since, I found the following lines, said to have been copied from an old stone dug up in the vicinity about the year 1800.

Here sleeps, beneathe this humble stone,
A man to age and honors growne,
Who would not mind his daddie;
But often staide at home from church,
And felt ye smart of flogging birche,
O, graceless William Paddy!

'Tis saide in youth he often stole
Brown sugar from ye sugar bowle,
Young hyson from ye caddie;
But then in age he grew sedate,
By merit rose in church and state,
O, blessed William Paddy!

Surviving friends, now all as one,
His sad example you must shun,
When he was but a laddie;
But if some good in him you view,
I wish that path you may pursue,
For sake of William Paddy.

Now dry your eyes, and cease to weep,
He now enjoys ye sweetest sleep;
But tis with countenance sad, I,
Adhering to ye simple truth,
Record ye foibles of ye youth
Of blessed William Paddy.

BENJAMIN FRANKLIN.

A writer in *Blackwood's Magazine*, several years since, relates from personal knowledge the following anecdotes of Franklin, illustrative of the character of the man who could *bide his day.*

By nature, perhaps, like George Washington, whose character, by the way, is greatly misunderstood, he was a man of strong passions, which, after many years, my continual guardianship, trial, and severe disciplin, he had brought entirely under his control. This, we say positively, *was* the character of Washington: this, we *believe* to have been the character of Franklin.

We happen to know something of the doctor's determination, however, in two cases; both growing out of the same event, where the natural temper of the man broke out—blazed up, like a smothered fire—became visible, as it were, all at once, in spite of himself. Some time about the year 1768, he was in this country, acting as agent for some of our transatlantic possessions. The troubles had already begun there. One day, he went before the privy council, as agent, with a petition from the assembly of Massachusetts; or, more carefully speaking—one day, when a petition from the provincial assembly of Massachusetts Bay, already presented by him, was taken up, he was treated with great indignity, insulted, grossly abused by the solicitor general, Wederbourne. He bore it without any sign of emotion. All eyes were upon him. No change or shadow of change went over his face. His friends were amazed at his forbearance. They wondered at his equanimity; they were almost ready to reproach him for it. Such untimely self-command could only proceed from indifference to the great cause, or, so they thought, from a strange moral insensibility, On his way from the place of humiliation, they gathered about him. He stopped, he stood still; his manner, look, voice, were those of a man, *who* has quietly concentrated every thought and every hope under heaven, all his energies, upon a single point, "His master shall pay for it," said he, and passed on.

The other circumstance grew out of the same affair. As a mark of especial consideration for the privy council, the Doctor appeared before them in a superb dress, after the court fashion of the time. He wore it bravely—he looked uncommonly well in it. Finding however, that this courtly garb, thus chosen, thus worn, had been of no avail, as a refuge or shelter to him; that, on the contrary, it had only made him a better mark, and exasperated his adversary; that, worse than all, his considerate loyalty had been misunderstood, for a piece of dirty adulation, or worse yet for a piece of wretched foppery; he went, on leaving the council, straightway home; threw the dress aside; and, from that hour, *never wore it again*, till the day, on which he went with full power into the court of the Bourbons, *to sign the treaty between France and America—the United States of America!* What must have been his feelings! That paper gave the death blow to British dominion over the western world. It was done; the threat was accomplished! Franklin was at peace with himself; the majesty of Great Britain *had paid*, bitterly paid for the insolence of the solicitor general.

THE ROMANCE OF ROMANCE.

The history of the liaison of Mirabeau the French revolutionist with the Marchioness de Monnior is more romantic than romance. The parties, "saw, and looked, and loved." Mirabeau seduced and carried her off; she was seized and thrown into a convent; he escaped into Switzerland; he was tried, and convicted of contumacy and sentenced to lose his head; the lady escaped and rejoined him; they passed into Holland; there, after a time, they were seized; she was again immured in a convent, and he was consigned to the castle of Vincennes, where he remained three years and a half. After his liberation he obtained a new trial; pleaded his own cause; produced a lock of the lady's hair, steeped in poison, of which she was in possessions of a counterpart, for their mutual destruction should he fail; and, by the impassioned power of his all commanding eloquence, he terrified the court and his prosecutors, melted the audience into tears, obtained a reversal of his sentence, and even threw the costs of the suit upon the plaintiff!

MAJOR ANDRE.

It is certainly a singular circumstance, that Andre should, in a very satirical poem, have foretold his own fate. It was called the *Cow Chase*, and was published by Rivington, at New York, in consequence of the failure of an expedition undertaken by Wayne, for the purpose of obtaining cattle. Great liberties are taken with the American officers employed on the occasion, with

"Harry Lee and his dragoons, and Proctor with his cannon."

But the point of his irony seemed particularly aimed at Wayne, whose entire baggage, he asserts, was taken, containing

"His congress dollars, and his prog,
His military speeches;
His cornstalk whiskey for his grog,
Black stockings and blue breeches."

And concludes by observing that it is necessary to check the current of satire,

"Lest the same warrior-drover Wayne,
Should catch, and hang the poet."

He was actually taken by a party from the division of the army immediately under the command of Wayne.

STATISTICS OF A COAT.

By a statement from a tailor, in Boston, it appears that there are 25,243 stitches in a coat, viz: basting 782 stitches; in the edges of a coat, 5590; felling the edges, faces, &c. 6414; out of sight 5969; in the pockets, &c. 1982; in the collar alone, 3056; holes, 1450; The coat he says was made in two days, journeyman's hours.

It is better to turn the old coat, said my aunt Prudence, than to run in debt for a new one. But see, replied I, there is a hole in it! Never mind that said she, put on a patch; a patch upon the sleeve is better, than a writ upon the back; the old coat will set easier at home than a new one in prison. And so I wear the old coat yet.

MUSIC OF THE HAMMER.

Were we to seek out one only sound in the whole world as a representative of expression, of life, business, health, vigor and improvement, we should certainly name the 'sound of the hammer.' What is there on earth, more cheering? It is the very note of preparation for business, and gives a thrill peculiar to itself to all which lies inert around it.

What brings the morning so fresh and so vivid to the mind of the sluggard as the hammer which sounds from neighboring roofs? It is the veriest reproach that an idolent man can have, and speaks straight to the heart in those quick, manly, sudden tones, which only the sincerest friendship employs. And then how much is in that sound beside! What a range can fancy take when such a sound comes forth! There is the workman on the roof of a new building, or in the shop of the mechanic, or the store of the merchant. It is the hammer of the carpenter, the blacksmith, the tinman, the cordwainer, the jeweller, or the worker of marble —all industrious, all busy, all well to do. The 'sound of the hammer' is a note which forewarns the world of the where-abouts of the hard-working man. About it there is no concealment. The man he owes hears it, and waits contented—who owes him listens, and straightway goes to his daily labor. There is a spirit in the sound of a hammer which effects more or less nearly all the world. Some people go through life without noting one sound from another, in the multitude of noises around them, but we will answer for the sound of a hammer, that no one ever heard that without being conscious of an impression either positively pleasant or certainly painful. Mechanics should stick to their hammers, for they are sentinels of industry and bestowers of praise.

PARODY.

The following parody on the beautiful lines of Goldsmith, was taken from the sign of a silk dyer It undoubtedly obtained for him many a fair customer:

When lovely woman tilts her saucer,
And finds too late that tea will stain;
What ever made a lady crosser?
What art can wash all white again?

The only art the stain to cover—
To hide the spot from every eye;
To wear an unsoiled dress above her,
Of proper color, is—TO DYE.

ANECDOTES.

"Never speak unless you have something to say, and leave off when you are done." This was the rule, followed by an old gentleman, who upon being asked to address a religious meeting some twenty years ago, thus spoke: "My friends, I go about Charlestown, Malden, Cambridge, and other towns, selling meal; to some I sell a bushel, and to some I sell a peck. Some say one thing, and some another; world without end. Amen."

Your heel must be somewhat better, I think, said a gentleman to a buxom lass who had a hole in the heel of her stocking. Why so? she asked. Because, miss, replied the gentleman, I perceive it is getting out.

Some body down east has perpetrated the following:

Sound the loud clarion from Saco to Quaddy,
Skowhegan is up, and afraid of nobody.

Instead of saying a man runs on his own hook, the phrase is now more elegantly rendered by saying, *he progresses on his personal curve.*

The Dutch are as famous for bulls as the Irish. "I be lost two cowsh,' said Mynheer, 'unt von vash a calf, unt two vash a bull!'

A damsel in Ayrshire, having two lovers, and not knowing which to prefer, settled the matter by marrying one and immediately eloping with the other.

In this country, says an English editor, it is considered the height of folly for a man to get drunk and lie across the rail road with the idea of obtaining repose. The same opinion prevails to a considerable extent in America.

'What's that horse out of,' said a fellow, with a view to quiz a farmer's boy, who was riding an old horse, which showed less blood than bone.

'Out of?'

'Yes, what's he out of—do you know?'

'Yes, I do."

'Well, what?'

'Out of oats!'

A brave veteran officer reconnoitering a battery which was considered impenetrable, and which it was necessary to storm, laconically answered the engineers who were dissuading him from the attempt. "Gentlemen, you may think what you please: all I know is that the American flag must be hoisted on the ramparts tomorrow morning, *for I have the orders in my pocket.*"